



Indiana Department of Environmental Management  
Office of Air Management  
Rule Fact Sheet  
May 3, 2000

## **Styrene Emissions from the Reinforced Plastics Composites Fabricating Industry #99-125(APCB)**

### **Overview**

This rulemaking is a new rule to control styrene emissions from open molding processes located at reinforced plastics composites fabricating industry sites.

### **Citations Affected**

Adds 326 IAC 20-25

### **Affected Persons**

There are approximately 50 businesses in Indiana and the persons living in the vicinity of these facilities who will be affected by the control measures in this rule. Many of these businesses are located in Elkhart County.

### **Potential Cost**

There is no additional cost to the state due to this rulemaking and minimal cost to the regulated entities.

### **Outreach**

Public meetings were held in Elkhart in November, 1999 and January, 2000 and a permitting workshop for the industry was conducted in December 1999. The Clean Manufacturing and Safe Materials Institute has been consulted and actively involved from the beginning of the rulemaking process.

### **Background**

Styrene is a colorless, flammable, oily liquid that evaporates quickly. It has a sweet

aromatic odor at low concentrations and a strong, penetrating disagreeable odor at high concentrations. Cigarette smoke and automobile exhaust contain small amounts of styrene. Exposure to styrene is most likely to occur from breathing indoor air that is contaminated with styrene vapors from building materials, tobacco smoke, and consumer products. Breathing styrene is most likely to affect the nervous system and may cause depression, concentration problems, muscle weakness, tiredness, nausea, and possible eye, nose, and throat irritation. The effects of exposure to any hazardous substance depend on the dose, the duration, how the exposure occurs, personal traits and habits, and whether other chemicals are present. The International Agency for Research on Cancer has determined that styrene is possibly carcinogenic to humans.

The United States Environmental Protection Agency (U. S. EPA) has classified styrene as a hazardous air pollutant (HAP) and a highly reactive volatile organic compound (VOC). VOCs play a significant role in ground level ozone formation. The largest emitters of styrene in Indiana are manufacturers who use resins and gel coats containing styrene to produce reinforced plastic products, such as boats, recreational vehicles, bathtubs, and shower stalls. According to the Toxic Release Information Data for 1997, over two thousand

(2,000) tons of styrene were emitted by Indiana companies that are required to report emissions and seventy-five percent (75%) of those emissions occurred in the northern part of the state. Recent advances in application techniques and lower styrene content materials mean that manufacturers can and have significantly reduced their emissions. This rule will assure that the same emission reduction techniques will be required of all companies.

For several years, IDEM has been working with the reinforced plastics composites fabricating industry to reduce styrene emissions from their operations.

U. S. EPA is currently developing regulations that will require the use of "maximum available control technology" by the industry. These rules are scheduled to be proposed in the spring of 2000 and finalized by the end of the year.

### **Rule Summary**

The requirements in the draft rule are:

- 1) using low styrene resins and gel coats,
- 2) decreasing atomization by modifying how resins and gel coats are applied,
- 3) limiting HAP containing cleaning solvents,
- 4) decreasing evaporation of resins and gel coats by requiring work practice standards, and
- 5) assuring compliance with the rule with record keeping and reporting.

### **Consideration of Factors Outlined in Indiana Code 13-14-8-4**

Indiana Code 13-14-8-4 requires that in adopting rules and establishing standards, the board shall take into account the following:

- 1) All existing physical conditions and the character of the area affected.
- 2) Past, present, and probable future uses of the area, including the character of the uses of surrounding areas.
- 3) Zoning classifications.

4) The nature of the existing air quality or existing water quality, as appropriate.

5) Technical feasibility, including the quality conditions that could be reasonably be achieved through coordinated control of all factors affecting the quality.

6) Economic reasonableness of measuring or reducing any particular type of pollution.

7) The right of all persons to an environment sufficiently uncontaminated as not to be injurious to:

- (A) human, plant animal, or aquatic life; or
- (B) the reasonable enjoyment of life and property.

### **Consistency with Federal Requirements**

The new rules are consistent with federal guidance.

### **IDEM Contact**

Additional information regarding this rulemaking action can be obtained by calling (800) 451-6027 (in Indiana), press 0 and ask for Jean Beauchamp, Rule Development Section, Office of Air Management, (or extension 2-8424) or dial (317) 232-8424.